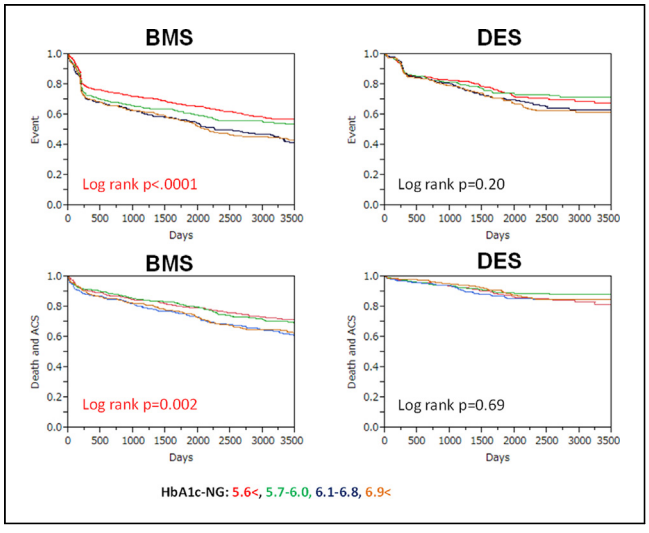
2011. Of the 3492 consecutive patients, 1897 patients received BMS, and the remaining 1,595 patients received DES. Patients were assigned to four groups according to the quadrant values of admission HbA1c. The primary endpoint was composite of MACE (all-cause death, ACS and revascularization). The mean follow-up duration was 4.5 years. As figured showed, the higher the HbA1c, the higher the rate of MACE and ASC plus death (p<.0001, 0.002) in the BMS group. However, HbA1c showed no such correlation with MACE and ACS plus death (p = 0.20, 0.69) in the DES group. Multivariable Cox regression analysis showed that HbA1c was not associated with long-term outcomes in DES.

CONCLUSIONS HbA1c has no impact on long-term outcomes of patients implanted with DES. In contrast, HbA1c correlates with higher MACE rates in BMS group.



CRT-168

Comparative Assessment Of The Antirestenotic Efficacy Of Two Paclitaxel Drug-eluting Balloons With Different Coatings In The Treatment Of In-stent Restenosis: Results Of The DEB-ISR Study.

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BACKGROUND Drug-eluting balloons (DEB) have shown effectiveness in the treatment of bare metal and drug-eluting stent in-stent restenosis (ISR). Preclinical investigations have suggested that coating technology is crucial for the efficacy of DEB. Aim of this study is to compare the antirestenotic efficacy of two paclitaxel DEB with different coatings in the treatment of ISR by means of a morphological and functional assessment.

METHODS In a single center, prospective, non-randomized study, the shellac-paclitaxel coated DIOR (EuroCor GmbH, Bonn, Germany) and the urea-paclitaxel coated IN.PACT Falcon (Medtronic Vascular Inc., Santa Rosa, CA, USA) were compared in the setting of ISR. Besides quantitative angiography, fractional flow reserve (FFR) and optical coherence tomography (OCT) were performed at baseline, post-procedure and 6-months follow-up. Main endpoints of the analysis were QCA, FFR and OCT-based parameters of restenosis.

RESULTS Forty-five patients were included, 20 (44%) received treatment with the DIOR and 25 (56%) with the IN.PACT Falcon. Angiographic and device success were 100% and 90% for the DIOR, and 100% and 92% for the IN.PACT Falcon, respectively. At 6-months follow-up, in-segment late lumen loss (-0.03±0.43 vs. 0.36±0.48 mm, p=0.014) and diameter stenosis (30.7±16.2 vs. 41.3±22.6%, p=0.083) were lower for the IN.PACT Falcon. FFR distal of the stent was significantly higher in the IN.PACT Falcon group (0.92±0.07 vs. 0.84±0.13, p=0.029) and in-stent FFR gradient was lower (0.05±0.05 vs. 0.13±0.12, p=0.002). Between postprocedure and follow-up, a 16% decrease in neointimal volume was observed for the IN.PACT Falcon, while a 30% increase was observed for the DIOR (p=0.006). Target lesion revascularization rate was 8% in the IN.PACT Falcon and 30% in the DIOR group (p=0.11).

CONCLUSIONS The IN.PACT Falcon DEB showed higher antirestenotic efficacy than the DIOR in the treatment of ISR, demonstrating that DEB with an excipient based coating are not equally effective. Comparative assessment of DEB in the clinical setting is warranted.

CRT-169

Impact Of Chronic Alcohol Consumption On 5-year Clinical Outcomes in Patients with Significant Coronary Artery Spasm; A Propensity Score Matching Study

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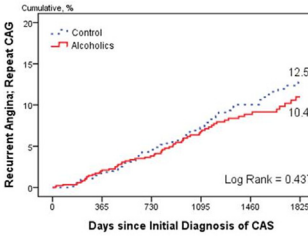
BACKGROUND Chronic alcohol consumption is known to be a risk factor of significant coronary artery disease (CAD). However, currently there is no available data with larger study population regarding long-term clinical outcomes of CAS patients (pts) with chronic alcohol consumption in real world clinical practice.

METHODS A total of 3,349 consecutive pts without significant coronary artery disease (CAD) underwent acetylcholine (Ach) provocation test between Nov. 2004 and May. 2014 and positive CAS pts were enrolled. Significant CAS was defined as > 70% of narrowing by incremental intracoronary injection of 20, 50 and 100 μg into left coronary artery. Patients were divided into two groups based on the presence of alcohol consumption: the Alcoholic group (n=1,189), the control group (n=2,160). To adjust potential confounders, a propensity score matched (PSM) analysis was performed using the logistic regression model.

RESULTS After PSM analysis, 2 propensity-matched groups (877 pairs, n=1,754, C-statistic=0.796) were generated and the baseline characteristics of the two groups were balanced. At 5 years, there were similar incidence of individual hard endpoints including mortality, myocardial infarction, revascularization and recurrent angina requiring repeat coronary angiography between the two groups.

CONCLUSIONS Despite the expected endothelial dysfunction, chronic alcohol consumption was not associated with worse clinical outcomes in CAS pts up to 5 years, suggesting that the mechanisms and risk factors of CAS may be different from those of atherosclerotic CAD.

Table. Clinical Outcomes up to 5-years after Propensity Score Matching



Variable, N (%)	HR (95%C.I)	p Value
Alcoholics	0.871 (0.618-1.228)	0.434
Gender (male)	1.988 (1.177-3.359)	0.010
Age	1.015 (0.998-1.033)	0.067
Hypertension	0.983 (0.677-1.426)	0.929
Diabetes	0.761 (0.480-1.205)	0.245
Dyslipidemia	1.084 (0.716-1.643)	0.701
Current smokers	1.204 (0.835-1.735)	0.318
Myocardial_Bridge	0.717 (0.468-1.098)	0.127
Aspirin	1.493 (0.966-2.308)	0.071
Nitrate	1.869 (1.148-3.043)	0.012
Diltiazem	1.074 (0.637-1.810)	0.788
Trimetazidine	1.365 (0.944-1.973)	0.097
Beta blokers	1.523 (0.936-2.478)	0.090
Diuretics	1.615 (0.909-2.868)	0.102
Angiotensin receptor I	0.904 (0.551-1.484)	0.691
Angiotensin convertin	1.428 (0.730-2.793)	0.297
Statins	1.261 (0.826-1.925)	0.281

CRT-170

Cardiac Rehabilitation Improves the Ischemic Burden in Patients with Ischemic Heart Disease who are not Suitable for Revascularization

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BACKGROUND Ischemic heart diseases including stable angina & acute events, represent a huge burden on both the individual & the society and represents an important source of disability.

AIM We aimed to identify the effect of cardiac rehabilitation program (CRP) on the ischemic burden in patients with ischemic heart disease (IHD) unsuitable for coronary revascularization.

METHODS Forty patients with IHD who were unfit for coronary revascularization were recruited. All patients were subjected to sophisticated CRP protocols, including patient

education, nutritional, medical, psychological and sexual counseling and group smoking cessation. All patients participated in low intensity exercise program twice weekly. The patient's symptoms, vitals and medications were evaluated at each visit and clinical and laboratory data, echocardiography and stress myocardial perfusion imaging (SPECT) were evaluated before and 3 months after the end of the study.

RESULTS The mean age was 56.8±3.1 years and only 2 patients (5%) were females. 22(55%) patients were diabetic, 21 (53%) were hypertensive and 30 (75%) were smokers. It was found that 3 months after completion of CRP, there was a significant decrease in BMI (30.3±2.9 vs. 31.2±1.9, p<0.001), and mean blood pressure (93.4±11 vs. 105±10.6 mmHg, p<0.001). There was also a favorable effect on lipid profile and a significant improvement of the functional capacity in terms of NYHA functional class (2.1±0.62 vs. 1.4±0.6, p<0.001). Despite that wall motion score index did not significantly change after CRP, there was a strong trend towards a better ejection fraction (53.7±7.8 vs. 54.5±6.3 %, p=0.06) and significant improvement of Canadian cardiovascular class (1.42±0.6 vs. 1.95±0.5, p<0.001) post CRP. Importantly, the difference between the SPECT-derived summed segmental scores at peak stress and at rest (SDS) was significantly lower after CRP (4.4±3 vs. 7.2±3, p<0.001).

CONCLUSION Participation in cardiac rehabilitation program improves ischemic burden in patients with IHD who are unfit or not suitable for conventional cardiac revascularization. In addition the decreased ischemic burden, functional capacity, hemodynamic and metabolic profiles also improves for this group of patients and thus, cardiac rehabilitation should be implemented for routine management of those patients.

CRT-171

The Clinical and Cost Burden of Coronary Calcification: An Economic Model to Address Under-reporting and Misclassification

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BACKGROUND Coronary artery calcification (CAC) is an established risk factor for poor cardiovascular clinical outcomes. This economic modeling analysis estimates the incremental impact of CAC on medical care costs and patient mortality for *de novo* percutaneous coronary intervention (PCI) patients in the 2012 cohort of the Medicare elderly (>65) population.

METHODS The target study population is the Medicare elderly with atherosclerosis in calendar year 2012 experiencing a new index event, defined as a patient receiving a coronary angiogram with no prior coronary revascularization in the preceding six months. This aggregate burden of illness study is incidence-based, focusing on cost and survival outcomes for an annual Medicare cohort based on the recently introduced ICD9 code for CAC. The horizon of the cost analysis uses a one-year horizon, and the survival analysis considers lost life years and their economic value. The principal data sources for cost and survival analyses were Medicare's Standard Analytic Files. Estimates of the degree of calcification and the incidence of MACE were based on the HORIZONS-AMI/ACUITY elderly pooled sample.

RESULTS For calendar year 2012, an estimated 200,945 index (*de novo)* PCI procedures were performed in this cohort. An estimated 16,000 Medicare beneficiaries (7.9%) were projected to have had severe CAC generating an additional cost in the first year following their PCI of $3,500, on average, or $56 million in total. In terms of mortality, the model projects an additional 397 deaths would be attributable to severe CAC in 2012, resulting in 3,770 lost life years, representing an estimated loss of about $377 million, when valuing lost life years at $100,000 each. An estimated 63,000 patients had moderate CAC.

CONCLUSIONS These model-based CAC estimates, considering both moderate and severe CAC patients, suggest an annual burden of illness approaching $1.3 billion in this PCI cohort. The potential clinical and cost consequences of CAC warrant additional clinical and economic attention not only on PCI strategies for appropriate patients but also on reporting and coding to achieve better evidence-based decision making.

CRT-172

Abstract Withdrawn

RADIAL ACCESS

CRT-173

Is the Allen Test Necessary Before Transradial Artery Catheterization?

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OBJECTIVE We investigated whether Allen test is necessary before transradial approach.

BACKGROUND Transradial approach has been feasible and effective for cardiac and other vascular interventions in recent years. Most operators use a modified Allen test due to known collateral circulation in the hand; however, the definition of abnormal Allen test is not consistent and necessity before radial cannulation is not well defined.

METHODS The study population consisted of 2650 patients who had been performed cardiac catheterization or peripheral angiography (abdominal aortic, lower extremity) via radial access between 2011 and 2013. All of the patients were retrospectively investigated. Sixty five patients (Group A) had abnormal Allen test before transradial catheterization. One hundred and thirty age, sex and risk factors matched patients who had normal Allen test before transradial catheterization was taken as control group (Group B). No other test was used to assess collateral circulation in the hand. Standard cannulation techniques were used. One month after the procedure, all of the patients were performed Doppler ultrasonography for radial artery flow.

RESULTS Procedural success was similar between both groups (96.9% and 98.5%, p=0.367), and no major complication (subacute or delayed occlusion, spasm, hematoma, compartment syndrome, perforation/laceration/dissection, avulsion, AV fistula, pseudoaneurysm, digital ischemia, transient vocal cord paralysis) was developed in both groups during and after the procedure. Minor complications (subcutaneous edema, paresthesia, and ecchymosis) were developed in three patients in group A. However, none of them required surgical intervention. Doppler ultrasonography showed normal radial flow patterns in both study groups at one month post-procedural follow-up.

CONCLUSION Allen test may not be necessary before transradial access.

CRT-174

Transradial vs Transulnar Access for Coronary Angiography - A Meta-analysis

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BACKGROUND Transradial access for coronary angiography is widely used because of the low risk of complications and faster ambulation times for patients. Ulnar artery can also be easily accessed for coronary angiography. We compared the safety and efficacy of this approach in this meta-analysis.

METHODS PubMed, EBSCO and Google Scholar databases were queried for studies on transradial and transulnar access. Efficacy and adverse events for both these routes were then extracted and analyzed with Revman 5.2 software using random effects model.

RESULTS A total of 7 studies with 13,285 patients were included in this meta-analysis. There was a high percentage of successful radial artery access with a very low risk of crossover to alternate site compared to ulnar artery access (OR 0.32, 95% CI 0.12-0.91). This was driven by a high crossover rate in the ulnar group in one particular study. The number of attempts needed to gain successful access was very similar between the two groups (mean difference = -0.18, 95% CI -0.27-0.09). The incidence of complications such as hematomas (OR 0.81, 95% CI 0.41-1.61), arterial spasm (OR 1.21, 95% CI, 0.47-3.14), arterial occlusion (OR 0.93, 95% CI 0.68-1.28) and major adverse cardiovascular events (OR 1.17, 95% CI 0.73-1.86) were similar in both groups.

CONCLUSION There was a lower incidence of crossover with the radial access compared to ulnar. However, the complication rates were similar between the two groups.

Transradial vs Transulnar outcomes	Pooled Odds Ratio	Lower limit of 95% Confidence Interval	Upper limit of 95% confidence interval
Crossover rate	0.32	0.12	0.91
Number of attempts (mean difference)	-0.12	-0.27	-0.09
Arterial spasm	1.21	0.47	3.14
Arterial occulsion	0.93	0.68	1.28
Hematomas	0.81	0.41	1.61
Major adverse cardiovascular event	1.17	0.73	1.86